

<110> Shi et al.

<120> Serine protease Polynucleotides, Polypeptides, and Antibodies

<130> PT005P4

<140> Unassigned

<141> 2001-03-13

<150> 60/189,025

<151> 2000-03-14

<160> 38

<170> PatentIn Ver. 2.0

<210> 1

<211> 733

<212> DNA

<213> Homo sapiens

<400> 1

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| gggatccgga | gcccaaactct | tctgacaaaa  | ctcacacatg | cccaccgtgc | ccagcacctg | 60  |
| aattcgaggg | tgcaccgtca  | gtcttctctt  | tcccccaaa  | acccaaggac | accctcatga | 120 |
| tctcccgga  | tcctgaggtc  | acatgcgtgg  | tggtggacgt | aagccacgaa | gaccctgagg | 180 |
| tcaagtcca  | ctggtacgtg  | gacggcgtgg  | aggtgcataa | tgccaagaca | aagccgcggg | 240 |
| aggagcagta | caacagcacg  | taccgtgtgg  | tcagcgtcct | caccgtcctg | caccaggact | 300 |
| ggctgaatgg | caaggagtac  | aagtgcgaagg | tctccaacaa | agccctccca | acccccatcg | 360 |
| agaaaacat  | ctccaaagcc  | aaagggcagc  | cccgagaacc | acaggtgtac | accctgcccc | 420 |
| catcccggga | tgagctgacc  | aagaaccagg  | tcagcctgac | ctgacctggc | aaaggcttct | 480 |
| atccaagcga | catcgccgtg  | gagtgggaga  | gcaatgggca | gccgggagac | aactacaaga | 540 |
| ccacgcctcc | cgtgctggac  | tccgacggct  | ccttcttctt | ctacagcaag | ctcaccgtgg | 600 |
| acaagagcag | gtggcagcag  | gggaacgtct  | tctcatgctc | cgtgatgcat | gaggctctgc | 660 |
| acaaccacta | cacgcagaag  | agcctctccc  | tgtctccggg | taaatgagtg | cgacggccgc | 720 |
| gactctagag | gat         |             |            |            |            | 733 |

<210> 2

<211> 1776

<212> DNA

<213> Homo sapiens

<400> 2

|             |            |            |             |            |             |     |
|-------------|------------|------------|-------------|------------|-------------|-----|
| ccacgcgtcc  | gcaagttcag | tcaacagaag | catggagtgt  | tggtccatat | gctgttgatt  | 60  |
| tgtagatttc  | actctactga | ggatcctgaa | actgtagata  | aaattgttca | acttgtttta  | 120 |
| catgaaaagc  | tgcaagatgc | tgtaggaccc | cctaaagtag  | atcctcactc | agttaaaatt  | 180 |
| aaaaaaatca  | acaagacaga | aacagacagc | tatctaaacc  | attgctgcgg | aacacgaaga  | 240 |
| agtaaaaactc | taggtcagag | tctcaggatc | gttgggtggga | cagaagtaga | agaggggtgaa | 300 |
| tggccctggc  | aggctagcct | gcagtgggat | gggagtcac   | gctgtggagc | aaccttaatt  | 360 |
| aatgccacat  | ggcttgtgag | tgctgtctac | tgttttacaa  | catataagaa | ccctgccaga  | 420 |
| tggaactgctt | cctttggagt | aacaataaaa | ccttcgaaaa  | tgaaacgggg | tctccggaga  | 480 |
| ataattgtcc  | atgaaaaata | caaacaccca | tcacatgact  | atgatatttc | tcttgagag   | 540 |
| ctttctagcc  | ctgttcccta | cacaaatgca | gtacatagag  | tttgtctccc | tgatgcatcc  | 600 |
| tatgagtttc  | aaccaggtga | tgtgatgttt | gtgacaggat  | ttggagcact | gaaaaatgat  | 660 |
| ggttacagtc  | aaaatcatct | tcgacaagca | caggtgactc  | tcatagacgc | tacaacttgc  | 720 |
| aatgaacctc  | aagcttacaa | tgacgccata | actcctagaa  | tgttatgtgc | tggctcctta  | 780 |

|             |             |             |             |             |             |      |
|-------------|-------------|-------------|-------------|-------------|-------------|------|
| gaaggaaaaa  | cagatgcatg  | ccaggggtgac | tctggaggac  | cactgggttag | ttcagatgct  | 840  |
| agagatatct  | ggtaccttgc  | tggaatagtg  | agctggggag  | atgaatgtgc  | gaaacccaac  | 900  |
| aagcctggtg  | tttatactag  | agttacggcc  | ttgcgggact  | ggattacttc  | aaaaactggt  | 960  |
| atctaagaga  | caaaaagcctc | atggaacaga  | taacattttt  | ttttgttttt  | tgggtgtgga  | 1020 |
| ggccattttt  | agagatacag  | aattggagaa  | gacttgcaaa  | acagctagat  | ttgactgac   | 1080 |
| tcaataaaact | gtttgcttga  | tgcattgtatt | ttcttcccag  | ctctgttccg  | cacgtaagca  | 1140 |
| tcctgcttct  | gccagatcaa  | ctctgtcatc  | tgtgagcaat  | agttgaaact  | ttatgtacat  | 1200 |
| agagaaatag  | ataatacaat  | attacattac  | agcctgtatt  | catttgttct  | ctagaagtct  | 1260 |
| tgtcagaatt  | ttgacttgtt  | gacataaatt  | tgtaatgcat  | atatacaatt  | tgaagcactc  | 1320 |
| cttttcttca  | gttcctcagc  | tcctctcatt  | tcagcaaaata | tccattttca  | aggtgcagaa  | 1380 |
| caaggagtga  | aagaaaatat  | aagaagaaaa  | aaatccccta  | cattttattg  | gcacagaaaa  | 1440 |
| gtattaggtg  | tttttcttag  | tggaatatta  | gaaatgatca  | tattcattat  | gaaagggtcaa | 1500 |
| gcaaagacag  | cagaatacca  | atcacttcat  | catttaggaa  | gtatgggaac  | taagttaagg  | 1560 |
| aagtccagaa  | agaagccaag  | atatactcct  | attttcattt  | ccaaacaact  | actatgataa  | 1620 |
| atgtgaagaa  | gattctgttt  | tttgtgacct  | ataataatta  | tacaaacttc  | atgcaatgta  | 1680 |
| cttgtctaag  | caaatttaaag | caaataattta | tttaacattg  | tactgaggat  | gtcaacatat  | 1740 |
| aacaataaaa  | taaatcaccc  | aaaaaaaaaa  | aaaaaa      |             |             | 1776 |

&lt;210&gt; 3

&lt;211&gt; 1441

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3

|             |            |             |             |             |             |      |
|-------------|------------|-------------|-------------|-------------|-------------|------|
| gcgtcagaag  | gttctaactt | ttgtcatcac  | tattaccagc  | attgtcatcg  | ttatcgttat  | 60   |
| cttcgtcatc  | atcattacca | ccgttatacc  | tgatactgcc  | ataacaatca  | gaacattatg  | 120  |
| taacaggcacg | gcatatcttc | ccaaagatct  | tggccactat  | ggactacgat  | ctttattttt  | 180  |
| cttggagtgg  | cggcaatctt | gggagttaacc | attgggtcttc | ttgttcattt  | tctggcagtt  | 240  |
| gagaagactt  | actattatca | aggtgatttt  | catattttctg | gagtcacata  | caatgataat  | 300  |
| tgtgaaaacg  | cagcttcaca | agccagcaca  | aatctaagca  | aagatattga  | gactaagatg  | 360  |
| ttaaatgcat  | ttcaaaattc | cagtatatat  | aaggaatatg  | tcaaatctga  | ggtcatcaaa  | 420  |
| cttctgccta  | atgccaatgg | ttcaaatgtg  | cagttacagc  | tgaaattcaa  | gtttcctcca  | 480  |
| gcagaaggag  | ttagcatgag | gactaaaaatc | aaggctaaat  | tacatcagat  | gttgaaaaac  | 540  |
| aacatggcat  | cctggaatgc | agttcctgct  | tccattaaac  | tcattggaaat | cagcaaggct  | 600  |
| gcttctgaaa  | tgcttaccac | caactgttgt  | gggagacaag  | tagccaacag  | tatcataact  | 660  |
| ggcaacaaaa  | ttgtgaatgg | aaaaagctcc  | ctggaggggg  | catggccatg  | gcaggccagc  | 720  |
| atgcaatgga  | aaggccgtca | ctactgtgga  | gcctctctga  | tcagcagcag  | gtggctatta  | 780  |
| tctgcagctc  | actgctttgc | taagaaaaat  | aattcaaaag  | attggactgt  | caactttgga  | 840  |
| attgtagtaa  | ataaaccata | tatgacacgg  | aaagtccaaa  | acattatttt  | tcattgaaaat | 900  |
| tatagcagtc  | ctgggcttca | tgatgatatt  | gcccttgtgc  | agcttgctga  | agaagtctct  | 960  |
| tttacagagt  | acattcgtaa | gatttgtctt  | cctgaagcca  | aaatgaagct  | ctcagaaaaat | 1020 |
| gacaatgttg  | tagttacagg | ttggggaaca  | ctttatatga  | atgggttcatt | tccagtata   | 1080 |
| cttcaagaag  | cctttttgaa | gattattgac  | aacaaaattt  | gcaatgcctc  | atatgcatac  | 1140 |
| tctggccttg  | tgactgatac | aatgttatgt  | gctggattta  | tgtcaggaga  | agctgatgca  | 1200 |
| tgtcagaatg  | attctgggtg | accactagct  | taccctgatt  | ccagaaatat  | ctggcatctt  | 1260 |
| gttggaatag  | taagctgggg | tgatggatgt  | ggtaaaaaaga | ataagccagg  | tgtctatact  | 1320 |
| cgagtgaact  | cttatcgcaa | ttggattaca  | tccaagactg  | gactctgaaa  | aaaaaggaat  | 1380 |
| tatacaaaag  | aacataaaga | ccactgtagg  | ctatccttaa  | aaaaaaaaaa  | aaaaaaaaaa  | 1440 |
| a           |            |             |             |             |             | 1441 |

&lt;210&gt; 4

&lt;211&gt; 1939

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

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 <223> n equals a,t,g, or c

<220>  
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 <222> (1915)  
 <223> n equals a,t,g, or c

<220>  
 <221> SITE  
 <222> (1938)  
 <223> n equals a,t,g, or c

<400> 4

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| gggcttccgg | ctccacactg | acagcaggac | ctgcctggcc  | attaactcct | gcgccctggg  | 60   |
| caatggcggc | tgccagcacc | actgtgtcca | gctcacaatc  | actcggcatc | gctgccagt   | 120  |
| ccggccccgg | ttccagctcc | aggaggacgg | caggcattgt  | gtccgtagaa | gcccggtgtg  | 180  |
| caacaggaac | ggcagctgca | tgcacaggtg | ccaggtgggtc | cggggcctcg | cccgtgtga   | 240  |
| gtgccacgtg | ggctatcagc | tagcagcggg | cggcaaggcc  | tgtgaagatg | tggaacgaatg | 300  |
| tgcgcgancg | ctggccagtg | tgcccattgg | tgctcaaacac | ccaggggtcc | ttcaagtgcg  | 360  |
| tgtgtacgyg | ggctatgagc | tgggcgccga | tgcccgccag  | tgctaccgga | ttgagatgga  | 420  |
| aatcgtgaac | agctgtgagg | ccaacaacgg | cggctgtctc  | catggctgca | gccacaccag  | 480  |
| tgtctgggcc | ctgtgcacct | gtcccccg   | ctacgagctg  | gacacagatc | agaggacctg  | 540  |
| catcgatgtc | gacgactgtg | cagacagccc | gtgctgccag  | caggtgtgca | ccaacaaccc  | 600  |
| tgccgggtac | gagtgccgct | gctacgccgg | ctaccggctc  | agtgccgatg | gctgcccgtg  | 660  |
| tgaggatgtg | gatgagtgcg | cctccagccg | tgccggctgc  | gagcaccact | gcaccaacct  | 720  |
| ggccggctcc | ttccagtgtc | cctgcgaggc | cggctaccgg  | ctgcacgagg | accgtagggg  | 780  |
| ctgcagcccc | ctggaggagc | cgatgggtga | cctggacggc  | gagctgcctt | tcgtgcggcc  | 840  |
| cctgccccac | attgccgtgc | tccaggacga | gctgccgcaa  | ctcttccagg | atgacgacgt  | 900  |
| cggggccgat | gaggaagagg | cagagtgtcg | gggcgaacac  | acgctcacag | agaagtgtgt  | 960  |
| ctgcctggat | gactcctttg | gccatgactg | cagcttgacc  | tgtgatgact | gcaggaacgg  | 1020 |
| agggacctgc | ctcctgggcc | tggatggctg | tgattgcccc  | gagggctgga | ctgggctcat  | 1080 |
| ctgcaatgag | acttgtcttc | cggacacctt | tgggaagaac  | tgagcttctt | cctgcagctg  | 1140 |
| tcagaatggt | gggacctgcg | actctgtcac | gggggcctgc  | cgctgcccc  | cgggtgtcag  | 1200 |
| tggaactaac | tgtgaggatg | gctgccccaa | gggtactat   | ggcaagcact | gtcgcaagaa  | 1260 |
| atgcaactgt | gccaaccggg | gccggtgcc  | ccgctmtac   | ggggcctgcc | tctgcgaccc  | 1320 |
| agggctctac | ggccgcttct | gccacctcac | ctgcccgccg  | tgggcctttg | ggccgggctg  | 1380 |
| ctcggaggag | tgccagtgtg | tgcagcccca | cacgcagtc   | tgtgacaaga | gggatggcag  | 1440 |
| ctgtcctctg | aaggctggct | tccggggcga | gcgctgtcag  | gcagagtgtg | agctgggcta  | 1500 |
| ctttggggcg | gggtgtgtgg | aggcatgcac | ctgccagtg   | ggcgtggcct | gtgactccgt  | 1560 |
| gagcggcgag | tgtgggaagc | ggtgtcctgc | tggcttccag  | ggagaggact | gtggccaagt  | 1620 |
| ccctgtctct | tataccagag | acagtgaaca | ggcctcgcca  | gagaagcacc | tccaccactc  | 1680 |
| cgggagcccc | cagttcctga | gaggaggaag | gctcctcccc  | tgccccctct | ctgtcctccc  | 1740 |
| tctgccccct | cctctctttt | ctttaagagc | ctgtgtgtgt  | ccgaggataa | gccacaggcg  | 1800 |
| atgacatccg | agtgttgata | gaaagatcaa | cactttataa  | agataacatc | ccctcttaaa  | 1860 |
| aaaaaaaaaa | aaaaaaaaaa | aaaaaaaaaa | aaaaaaaaaa  | aaaaaaaaaa | aaaanaaaaa  | 1920 |
| aaaaaaaaaa | aaaaaatnt  |            |             |            |             | 1939 |

<210> 5  
 <211> 1222  
 <212> DNA  
 <213> Homo sapiens

<400> 5

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| ggcagcagcc | acaggtctga | atgcccttcc | cagcgggtata | tctccctoca | gtgttccac  | 60  |
| tgccgactga | gggcatgac  | cgggcggatc | gtgggagggg  | cgctggcctc | ggatagcaag | 120 |

|            |            |             |            |             |             |      |
|------------|------------|-------------|------------|-------------|-------------|------|
| tggccttggc | aagtgagtct | gcacttcggc  | accacccaca | tctgtggagg  | cacgctcatt  | 180  |
| gacgcccagt | gggtgctcac | tgccgcccac  | tgcttcttcg | tgacccggga  | gaaggctcctg | 240  |
| gagggctgga | aggtgtacgc | gggcaccagc  | aacctgcacc | agttgcctga  | ggcagcctcc  | 300  |
| attgccgaga | tcatcatcaa | cagcaattac  | accgatgagg | aggacgacta  | tgacatcgcc  | 360  |
| ctcatgcggc | tgtccaagcc | cctgaccctg  | tccgctcaca | tccaccctgc  | ttgcctcccc  | 420  |
| atgcatggac | agacctttag | cctcaatgag  | acctgctgga | tcacaggctt  | tggaagacc   | 480  |
| agggagacag | atgacaagac | atcccccttc  | ctccgggagg | tgcagggtcaa | tctcatcgac  | 540  |
| ttcaagaaat | gcaatgacta | cttgggtctat | gacagttacc | ttaccccaag  | gatgatgtgt  | 600  |
| gctggggacc | ttcgtggggg | cagagactcc  | tgccagggag | acagcggggg  | gcctcttgtc  | 660  |
| tgtgagcaga | acaaccgctg | gtacctggca  | gggtgcacca | gctggggcac  | aggctgtggc  | 720  |
| cagagaaaca | aacctgggtg | gtacaccaaa  | gtgacagaag | ttcttccttg  | gatttacagc  | 780  |
| aagatggaga | acagagctca | gcgggttgaa  | aaagcgtgga | cctacaggcc  | aggcaggcag  | 840  |
| ttgctgggca | gatgttctcc | cagaagtatt  | tttttgtgta | aggttgcaat  | ggactttgaa  | 900  |
| aacgtttcag | tttctgcaga | ggatttttgtg | atagtttttg | ttatcaagca  | tttatgcatg  | 960  |
| ggaatccgct | cttcatggcc | tttcccagct  | ctgtttgttt | tagtcttttt  | gattttcttt  | 1020 |
| ttgtttgtgt | tggtgtcttt | tttaaaaaaac | acaagtgact | ccattttgac  | tctgacaact  | 1080 |
| ttcacagctg | tcaccagaat | gctccctgag  | aactaccatt | ctttcccttt  | cccacttaaa  | 1140 |
| atatttcac  | agaacctcac | tactatcata  | aaagagtata | aagtaataaa  | ataataaaaa  | 1200 |
| gttaaaaaaa | aaaaaaaaaa | aa          |            |             |             | 1222 |

&lt;210&gt; 6

&lt;211&gt; 1394

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 6

|            |             |             |             |             |             |      |
|------------|-------------|-------------|-------------|-------------|-------------|------|
| gctctaatac | gactactata  | gggaaagctg  | gtacgcctgc  | aggtaccggt  | ccggaattcc  | 60   |
| cgggtcgacc | cacgcgtccg  | ctgatagctc  | gatgtgacgg  | agtctcggt   | tgcaaagacg  | 120  |
| gggaggacga | gtaccgctgt  | gtccgggtgg  | gtggtcagaa  | tgccgtgctc  | cagggtgttca | 180  |
| cagctgcttc | gtggaagacc  | atgtgctccg  | atgactggaa  | gggtcactac  | gcaaagtgtg  | 240  |
| cctgtgcccc | actgggtttc  | ccaagctatg  | tgagttcaga  | taacctcaga  | gtgagctcgc  | 300  |
| tggaggggca | gttccgggag  | gagtttgtgt  | ccatcgatca  | cctcttgcca  | gatgacaagg  | 360  |
| tgactgcatt | acaccactca  | gtatatgtga  | gggagggatg  | tgccctctggc | cacgtgggtta | 420  |
| ccttgacgtg | cacagcctgt  | ggatcatagaa | ggggctacag  | ctcacgcac   | gtgggtggaa  | 480  |
| acatgtcctt | gctctcgag   | tgcccttgcc  | aggccagcct  | tcagttccag  | ggctaccacc  | 540  |
| tgtgcggggg | ctctgtcatc  | acgcccctgt  | ggatcatcac  | tgctgcacac  | tgtgtttatg  | 600  |
| acttgtacct | ccccaaagtca | tggaccatcc  | aggtgggtct  | agtttccttg  | ttggacaatc  | 660  |
| cagccccatc | ccacttggtg  | gagaagattg  | tctaccacag  | caagtacaag  | ccaaagaggc  | 720  |
| tgggcaatga | catgccctt   | atgaagctgg  | cggggccact  | cacgttcaat  | gaaatgatcc  | 780  |
| agcctgtgtg | cctgcccac   | tctgaagaga  | acttccccga  | tggaaaagtg  | tgctggacgt  | 840  |
| caggatgggg | ggccacagag  | gatggagcag  | gtgacgcctc  | ccctgtcctg  | aaccacgcgg  | 900  |
| cgtccctttt | gatttccaac  | aagatctgca  | accacaggga  | cgtgtacggg  | ggcatcatct  | 960  |
| ccccctccat | gctctgcgcg  | ggctacctga  | cgggtggcgt  | ggacagctgc  | cagggggaca  | 1020 |
| gcgggggggc | cctgggtgtgt | caagagagga  | ggctgtggaa  | gttagtggga  | gcgaccagct  | 1080 |
| ttggcatcgg | ctgcgcagag  | gtgaacaagc  | ctgggggtga  | caccctgtgc  | acctccttcc  | 1140 |
| tggactggat | ccacgagcag  | atggagagag  | acctaaaaaac | ctgaagagga  | aggggacaag  | 1200 |
| tagccacctg | agttcctgag  | gtgatgaaga  | cagcccgatc  | ctcccctgga  | ctcccggtga  | 1260 |
| ggaacctgca | cacgagcaga  | cacccttgga  | gctctgagtt  | ccggcaccag  | tagcaggccc  | 1320 |
| gaaagaggca | cccttccatc  | tgattccagc  | acaaccttca  | agctgctttt  | tgttttttgt  | 1380 |
| gtagggagat | gaaa        |             |             |             |             | 1394 |

&lt;210&gt; 7

&lt;211&gt; 1079

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 7

|             |              |             |             |             |            |      |
|-------------|--------------|-------------|-------------|-------------|------------|------|
| ggcacgagct  | ggggccacac   | ccaccctagc  | cataacttaca | gctcggatat  | gctccaggac | 60   |
| acgggtggtgc | cctgctcagc   | actcagctct  | gcaacagctt  | gcgtgtacag  | cggagccctc | 120  |
| accccccgca  | tgctttgogc   | tggttacctg  | gacggaaggg  | ctgatgcatg  | ccagggagat | 180  |
| agcggggggc  | ccctagtgtg   | cccagatggg  | gacacatggc  | gcctagtggg  | ggtggtcagc | 240  |
| tgggggcggtg | gctgcgcaga   | gccccaatcac | ccagggtgtct | acgccaaggt  | agctgagttt | 300  |
| ctggactgga  | tccatgacac   | tgctcaggac  | tccctctctg  | agtccctgctg | tttcctccag | 360  |
| tctcactgca  | caccactgct   | catgcttctt  | ggggcctcca  | gcagctccac  | taatggagga | 420  |
| gaggcagtag  | cctccgacac   | agaacgcag   | gacctcctac  | tactgtgtgt  | gaggaacagt | 480  |
| cactaccac   | tgggccagcca  | cccagccaac  | aggtctctcc  | tcttggggccc | tgatttcaga | 540  |
| gtcctctttc  | tactagaga    | ctcaatgaca  | gaagagaggc  | tgggacttgg  | ttgggcatgc | 600  |
| tgtggttgc   | gagggatgag   | ggggaggaga  | gaggtaggag  | ctggagatga  | agaggctgct | 660  |
| agaagcagca  | ggaagcctgc   | ccttctgccc  | tctccctcc   | ctgcccctgt  | gtgagtcctt | 720  |
| tgaggagggtg | ctggggagggtg | cccccgctcc  | caccttttct  | ctgtgctcta  | ggtgggctaa | 780  |
| gtgcctccct  | agaggactcc   | atggctgaga  | ggctcctggg  | cagatgggg   | caaggctggg | 840  |
| ccagcccaga  | tgaagcctat   | gggagtcagg  | acctcttcca  | ctctccctct  | ccactccct  | 900  |
| tcctgttctc  | acctggctgt   | ggctggccct  | gtgtgggggtg | ggtaccctgg  | aaaacaagaa | 960  |
| ggttgaggt   | ggtctaggac   | attggtttta  | aatgacagtt  | ctgtgaactg  | gtccaaggag | 1020 |
| ttctgttatt  | aaagtgatat   | atggtcttgg  | tccagtaaaa  | aaaaaaaaaa  | aaaaaaaaaa | 1079 |

&lt;210&gt; 8

&lt;211&gt; 874

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 8

|            |             |             |             |             |             |     |
|------------|-------------|-------------|-------------|-------------|-------------|-----|
| gccaaagtgt | tcttcccgc   | tgaccgagtc  | ctctgcgcct  | atgaggaagg  | tcttcaagcc  | 60  |
| gctcagcgtg | cctgtggaca  | gcgtggcccc  | ggcccccca   | agcctcagga  | gggcaacaca  | 120 |
| gtccctggcg | agtggccctg  | gcaggccagt  | gtgaggaggc  | aaggagcca   | catctgcagc  | 180 |
| ggctccctgg | tgccagacac  | ctgggtcctc  | actgctgccc  | actgctttga  | aaaggcagca  | 240 |
| gcaacagaac | tgaattctct  | gtcagtggtc  | ctgggttctc  | tgacgcgtga  | gggactcagc  | 300 |
| cctggggccg | aagagggtggg | ggtggctgcc  | ctgcagttgc  | ccagggccta  | taaccactac  | 360 |
| agccagggtc | cagacctggc  | cctgctgcag  | ctcgcccacc  | ccacgacca   | cacaccctc   | 420 |
| tgctgcccc  | agcccgcaca  | tcgcttcccc  | tttggagcct  | cctgctgggc  | cactggctgg  | 480 |
| gatcaggaca | ccagtgatgc  | tcctgggacc  | ctacgcaatc  | tgcgccctgcg | tctcatcagt  | 540 |
| cgccccacat | gtaactgtat  | ctacaaccag  | ctgcaccagc  | gacacctgtc  | caaccgggcc  | 600 |
| cggcctggga | tgctatgtgg  | gggccccccag | cctgggggtgc | agggcccctg  | tcagggtctga | 660 |
| tagggagaag | agaaggagca  | gaaggggagg  | ggcctaacc   | tgggctgggg  | gttggactca  | 720 |
| caggactggg | ggaaagagct  | gcaatcagag  | gggtcttgcc  | atagctgggc  | tcaggcatct  | 780 |
| gtccttggct | ttgttgccctg | gctccaggga  | gattccgggg  | gccctgtgct  | gtgcctcgag  | 840 |
| ggggggcccg | gtacccaatt  | cgccctatag  | tgag        |             |             | 874 |

&lt;210&gt; 9

&lt;211&gt; 714

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 9

|            |            |            |             |            |            |     |
|------------|------------|------------|-------------|------------|------------|-----|
| gtgggtttct | tgggatcccc | accaggcacc | ccttctctct  | tcgacttagg | gtgtggccgg | 60  |
| ccgcagggtt | cggatgcagg | cgcccggtac | gtgggggggtc | acgctgcccc | ggccggcgca | 120 |
| tgcccatggc | aggccagcct | ccgcctgcgg | aggggtgcacg | tgtgcggcgg | gtcactgctc | 180 |
| agccccagct | gggtgctcac | agctgcccac | tgcttctccg  | ggtccctgaa | ctcatccgac | 240 |
| taccagggtc | acctggggga | actggagatc | actctgtctc  | cccacttctc | caccgtgagg | 300 |
| cagatcatcc | tgactccag  | ccccccagga | cagccgggga  | ccagcgggga | catcgccctg | 360 |
| gtggagctca | gtgtccccg  | gacctctcc  | agccggatcc  | tgcccgtctg | cctcccggag | 420 |
| gcctcagatg | acttctgccc | tgggatccgg | tgctgggtga  | ccggctgggg | ctatacgcg  | 480 |

|            |            |            |            |            |             |     |
|------------|------------|------------|------------|------------|-------------|-----|
| gagggagagc | ctctgccacc | cccgtacagc | ctgcgggagg | tgaaagtctc | cgtgggtggac | 540 |
| acagagacct | gcccgcggga | ctatcccggc | cccgggggca | gcatccttca | gccccgacatg | 600 |
| ctgtgtgccc | ggggccccgg | ggatgcctgc | caggacgact | ccggggggcc | tctgggtctgc | 660 |
| caggtgaacg | gtgcctgggt | gcaggctggc | actgtgagct | ggggtgaggg | ctgc        | 714 |

&lt;210&gt; 10

&lt;211&gt; 1169

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 10

|            |             |            |             |             |             |      |
|------------|-------------|------------|-------------|-------------|-------------|------|
| ggcacgagct | ttttagtagg  | tacatgattt | tggtttattg  | gaaattgtca  | attctcagat  | 60   |
| ctcatattga | cagataccta  | aggctaggag | ggtccttaggg | gttcctgggg  | aagccccctg  | 120  |
| agtgcctagc | tctgtagcgc  | attgcagtgc | aattagcctg  | ctctgatgtg  | gatcctattt  | 180  |
| ctttectaca | gtgactgtct  | ttctttttcc | aggagatttc  | tggggggccc  | ctgggtctgtg | 240  |
| aattaaatgg | cacatgggtc  | caggtgggga | ttgtgagctg  | gggcattggc  | tgcggtcgca  | 300  |
| aaggataccc | tggagtgttac | acagaagtta | gtttctacaa  | gaaatggatt  | attgatcacc  | 360  |
| tgagacaagc | ttcctgtttg  | aattcaaaga | cttcctcatc  | ctagtccctg  | gtctggtgat  | 420  |
| gcccctgggc | atcctggtga  | cctcgtgatc | agacccatt   | ccactcttct  | gctgtttctg  | 480  |
| agtctcacac | ttaggtgtct  | cctctgacca | acttcccact  | ccttctcaat  | gccctttccg  | 540  |
| caaatcccag | ttggaatcca  | cgggccctct | ggagatccgt  | acaatagagc  | atggcaggga  | 600  |
| gactggggcc | tggaaagtgc  | ccctgcctgg | tgctctgggt  | tagagggcca  | gctgctctgc  | 660  |
| caggtggggc | acggtgactc  | gtcaatatct | ggaggaacat  | ctatcaaaga  | agagacatca  | 720  |
| tcaacggtga | agcaagcggt  | agatgtgggt | ctggtttcag  | ggctctcacc  | tgagactttg  | 780  |
| tgaaacccag | cagctgggtg  | attgctcaca | gagagtgaag  | gaggcggttac | caggtccctg  | 840  |
| cagacgtgtg | aggcctggga  | cttccactct | ggctcagttg  | tctggggctg  | ggagaagtgc  | 900  |
| ccctgcagcc | cagtgtggat  | ccatctgtga | gtggacagcc  | tctgccacac  | tagttctttt  | 960  |
| ggagcaaccc | attcttggca  | cccccttct  | cagtgcctta  | gtggccactt  | tcagggacac  | 1020 |
| cacaagttgt | gttgaggcag  | ttatgaagtg | tggagttttc  | ataaatcaac  | tgaataaatg  | 1080 |
| tttggagagt | caaaaaaaaa  | aaaaaaaaaa | aaaaaaaaaa  | aaaaaaaaaa  | aaaaaaaaaa  | 1140 |
| aaaaaaaaaa | aaaaaaaaaa  | aaaaaaaaaa |             |             |             | 1169 |

&lt;210&gt; 11

&lt;211&gt; 814

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 11

|             |             |             |            |            |            |     |
|-------------|-------------|-------------|------------|------------|------------|-----|
| ggcacgagca  | acagttttccg | ctgccagtgc  | ccggctgggt | ttgggggacc | cacctgtgag | 60  |
| acagagtgtc  | aacatgggtg  | ccagtgccag  | gtggagaatg | gctctgcggt | gtgtgtgtgc | 120 |
| caggccggat  | acaccggagc  | agcctgcgag  | atggatgtgg | acgactgcag | cctgaccctt | 180 |
| gcctgaatgg  | aggctcttgt  | gttgacctag  | tggggaatta | cacctgcttg | tgtgccgagc | 240 |
| ccttcaaggg  | acttcgctgt  | gagacaggtg  | actggccaag | tgctgcagg  | ccaccatggc | 300 |
| tgatgggtggc | tttgtgccgt  | gaacaccccc  | atagccactt | tcccccttct | tccttgccat | 360 |
| ctgactcacc  | tcacacctgt  | ctctgggggtg | ggaggatgcc | tctgccccct | tcctactccc | 420 |
| cagcgcttcc  | cgctcagcct  | ggatcctaag  | ccaccaactg | cagggaaaat | aggaagcaaa | 480 |
| agatggatgc  | tgccctccagg | gtgctgtgtg  | aggctgagca | accccttccc | ctctctgggc | 540 |
| ccttggtttcc | atctgtgaaa  | tgccaggagg  | gatgacaaa  | ttcacaagtc | tcctcttcca | 600 |
| gcctgggtga  | ctcttgactt  | ttttaacatc  | ttcctctcct | actctagaac | cctcagcaca | 660 |
| caagggaag   | taacgggaat  | cagaaagaaa  | actgaccttt | cactattttc | tattctattt | 720 |
| tgtgttgttt  | aactgctagt  | tgtgacttgt  | tagaggaatt | aaaaggccaa | ctggagattg | 780 |
| cagcctacag  | tataaaaaaa  | aaaaaaaaaa  | aaaa       |            |            | 814 |

&lt;210&gt; 12

&lt;211&gt; 305

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 12

Met Leu Leu Ile Cys Arg Phe His Ser Thr Glu Asp Pro Glu Thr Val  
 1 5 10 15  
 Asp Lys Ile Val Gln Leu Val Leu His Glu Lys Leu Gln Asp Ala Val  
 20 25 30  
 Gly Pro Pro Lys Val Asp Pro His Ser Val Lys Ile Lys Lys Ile Asn  
 35 40 45  
 Lys Thr Glu Thr Asp Ser Tyr Leu Asn His Cys Cys Gly Thr Arg Arg  
 50 55 60  
 Ser Lys Thr Leu Gly Gln Ser Leu Arg Ile Val Gly Gly Thr Glu Val  
 65 70 75 80  
 Glu Glu Gly Glu Trp Pro Trp Gln Ala Ser Leu Gln Trp Asp Gly Ser  
 85 90 95  
 His Arg Cys Gly Ala Thr Leu Ile Asn Ala Thr Trp Leu Val Ser Ala  
 100 105 110  
 Ala His Cys Phe Thr Thr Tyr Lys Asn Pro Ala Arg Trp Thr Ala Ser  
 115 120 125  
 Phe Gly Val Thr Ile Lys Pro Ser Lys Met Lys Arg Gly Leu Arg Arg  
 130 135 140  
 Ile Ile Val His Glu Lys Tyr Lys His Pro Ser His Asp Tyr Asp Ile  
 145 150 155 160  
 Ser Leu Ala Glu Leu Ser Ser Pro Val Pro Tyr Thr Asn Ala Val His  
 165 170 175  
 Arg Val Cys Leu Pro Asp Ala Ser Tyr Glu Phe Gln Pro Gly Asp Val  
 180 185 190  
 Met Phe Val Thr Gly Phe Gly Ala Leu Lys Asn Asp Gly Tyr Ser Gln  
 195 200 205  
 Asn His Leu Arg Gln Ala Gln Val Thr Leu Ile Asp Ala Thr Thr Cys  
 210 215 220  
 Asn Glu Pro Gln Ala Tyr Asn Asp Ala Ile Thr Pro Arg Met Leu Cys  
 225 230 235 240  
 Ala Gly Ser Leu Glu Gly Lys Thr Asp Ala Cys Gln Gly Asp Ser Gly  
 245 250 255  
 Gly Pro Leu Val Ser Ser Asp Ala Arg Asp Ile Trp Tyr Leu Ala Gly  
 260 265 270  
 Ile Val Ser Trp Gly Asp Glu Cys Ala Lys Pro Asn Lys Pro Gly Val  
 275 280 285

Tyr Thr Arg Val Thr Ala Leu Arg Asp Trp Ile Thr Ser Lys Thr Gly  
 290 295 300

Ile  
 305

<210> 13  
 <211> 416  
 <212> PRT  
 <213> Homo sapiens

<400> 13

Met Tyr Arg His Gly Ile Ser Ser Gln Arg Ser Trp Pro Leu Trp Thr  
 1 5 10 15

Thr Ile Phe Ile Phe Leu Gly Val Ala Ala Ile Leu Gly Val Thr Ile  
 20 25 30

Gly Leu Leu Val His Phe Leu Ala Val Glu Lys Thr Tyr Tyr Tyr Gln  
 35 40 45

Gly Asp Phe His Ile Ser Gly Val Thr Tyr Asn Asp Asn Cys Glu Asn  
 50 55 60

Ala Ala Ser Gln Ala Ser Thr Asn Leu Ser Lys Asp Ile Glu Thr Lys  
 65 70 75 80

Met Leu Asn Ala Phe Gln Asn Ser Ser Ile Tyr Lys Glu Tyr Val Lys  
 85 90 95

Ser Glu Val Ile Lys Leu Leu Pro Asn Ala Asn Gly Ser Asn Val Gln  
 100 105 110

Leu Gln Leu Lys Phe Lys Phe Pro Pro Ala Glu Gly Val Ser Met Arg  
 115 120 125

Thr Lys Ile Lys Ala Lys Leu His Gln Met Leu Lys Asn Asn Met Ala  
 130 135 140

Ser Trp Asn Ala Val Pro Ala Ser Ile Lys Leu Met Glu Ile Ser Lys  
 145 150 155 160

Ala Ala Ser Glu Met Leu Thr Asn Asn Cys Cys Gly Arg Gln Val Ala  
 165 170 175

Asn Ser Ile Ile Thr Gly Asn Lys Ile Val Asn Gly Lys Ser Ser Leu  
 180 185 190

Glu Gly Ala Trp Pro Trp Gln Ala Ser Met Gln Trp Lys Gly Arg His  
 195 200 205

Tyr Cys Gly Ala Ser Leu Ile Ser Ser Arg Trp Leu Leu Ser Ala Ala  
 210 215 220

His Cys Phe Ala Lys Lys Asn Asn Ser Lys Asp Trp Thr Val Asn Phe  
 225 230 235 240



Gly Ile Val Val Asn Lys Pro Tyr Met Thr Arg Lys Val Gln Asn Ile  
                   245                                  250                                  255  
 Ile Phe His Glu Asn Tyr Ser Ser Pro Gly Leu His Asp Asp Ile Ala  
                   260                                  265                                  270  
 Leu Val Gln Leu Ala Glu Glu Val Ser Phe Thr Glu Tyr Ile Arg Lys  
                   275                                  280                                  285  
 Ile Cys Leu Pro Glu Ala Lys Met Lys Leu Ser Glu Asn Asp Asn Val  
                   290                                  295                                  300  
 Val Val Thr Gly Trp Gly Thr Leu Tyr Met Asn Gly Ser Phe Pro Val  
                   305                                  310                                  315                                  320  
 Ile Leu Gln Glu Ala Phe Leu Lys Ile Ile Asp Asn Lys Ile Cys Asn  
                   325                                  330                                  335  
 Ala Ser Tyr Ala Tyr Ser Gly Phe Val Thr Asp Thr Met Leu Cys Ala  
                   340                                  345                                  350  
 Gly Phe Met Ser Gly Glu Ala Asp Ala Cys Gln Asn Asp Ser Gly Gly  
                   355                                  360                                  365  
 Pro Leu Ala Tyr Pro Asp Ser Arg Asn Ile Trp His Leu Val Gly Ile  
                   370                                  375                                  380  
 Val Ser Trp Gly Asp Gly Cys Gly Lys Lys Asn Lys Pro Gly Val Tyr  
                   385                                  390                                  395                                  400  
 Thr Arg Val Thr Ser Tyr Arg Asn Trp Ile Thr Ser Lys Thr Gly Leu  
                   405                                  410                                  415

<210> 14

<211> 534

<212> PRT

<213> Homo sapiens

<220>

<221> SITE

<222> (37)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

<222> (57)

<223> Xaa equals any of the naturally occurring L-amino acids

<400> 14

Met His Arg Cys Gln Val Val Arg Gly Leu Ala Arg Cys Glu Cys His  
   1                  5                                  10                                  15

Val Gly Tyr Gln Leu Ala Ala Asp Gly Lys Ala Cys Glu Asp Val Asp  
                   20                                  25                                  30

Glu Cys Ala Ala Xaa Leu Ala Ser Val Pro Met Ala Ala Gln His Pro  
 35 40 45  
 Gly Val Leu Gln Val Arg Val Tyr Xaa Gly Tyr Glu Leu Gly Ala Asp  
 50 55 60  
 Gly Arg Gln Cys Tyr Arg Ile Glu Met Glu Ile Val Asn Ser Cys Glu  
 65 70 75 80  
 Ala Asn Asn Gly Gly Cys Ser His Gly Cys Ser His Thr Ser Ala Gly  
 85 90 95  
 Pro Leu Cys Thr Cys Pro Arg Gly Tyr Glu Leu Asp Thr Asp Gln Arg  
 100 105 110  
 Thr Cys Ile Asp Val Asp Asp Cys Ala Asp Ser Pro Cys Cys Gln Gln  
 115 120 125  
 Val Cys Thr Asn Asn Pro Gly Gly Tyr Glu Cys Gly Cys Tyr Ala Gly  
 130 135 140  
 Tyr Arg Leu Ser Ala Asp Gly Cys Gly Cys Glu Asp Val Asp Glu Cys  
 145 150 155 160  
 Ala Ser Ser Arg Gly Gly Cys Glu His His Cys Thr Asn Leu Ala Gly  
 165 170 175  
 Ser Phe Gln Cys Ser Cys Glu Ala Gly Tyr Arg Leu His Glu Asp Arg  
 180 185 190  
 Arg Gly Cys Ser Pro Leu Glu Glu Pro Met Val Asp Leu Asp Gly Glu  
 195 200 205  
 Leu Pro Phe Val Arg Pro Leu Pro His Ile Ala Val Leu Gln Asp Glu  
 210 215 220  
 Leu Pro Gln Leu Phe Gln Asp Asp Asp Val Gly Ala Asp Glu Glu Glu  
 225 230 235 240  
 Ala Glu Leu Arg Gly Glu His Thr Leu Thr Glu Lys Phe Val Cys Leu  
 245 250 255  
 Asp Asp Ser Phe Gly His Asp Cys Ser Leu Thr Cys Asp Asp Cys Arg  
 260 265 270  
 Asn Gly Gly Thr Cys Leu Leu Gly Leu Asp Gly Cys Asp Cys Pro Glu  
 275 280 285  
 Gly Trp Thr Gly Leu Ile Cys Asn Glu Thr Cys Pro Pro Asp Thr Phe  
 290 295 300  
 Gly Lys Asn Cys Ser Phe Ser Cys Ser Cys Gln Asn Gly Gly Thr Cys  
 305 310 315 320  
 Asp Ser Val Thr Gly Ala Cys Arg Cys Pro Pro Gly Val Ser Gly Thr  
 325 330 335

Asn Cys Glu Asp Gly Cys Pro Lys Gly Tyr Tyr Gly Lys His Cys Arg  
 340 345 350

Lys Lys Cys Asn Cys Ala Asn Arg Gly Arg Cys His Arg Leu Tyr Gly  
 355 360 365

Ala Cys Leu Cys Asp Pro Gly Leu Tyr Gly Arg Phe Cys His Leu Thr  
 370 375 380

Cys Pro Pro Trp Ala Phe Gly Pro Gly Cys Ser Glu Glu Cys Gln Cys  
 385 390 395 400

Val Gln Pro His Thr Gln Ser Cys Asp Lys Arg Asp Gly Ser Cys Ser  
 405 410 415

Cys Lys Ala Gly Phe Arg Gly Glu Arg Cys Gln Ala Glu Cys Glu Leu  
 420 425 430

Gly Tyr Phe Gly Pro Gly Cys Trp Gln Ala Cys Thr Cys Pro Val Gly  
 435 440 445

Val Ala Cys Asp Ser Val Ser Gly Glu Cys Gly Lys Arg Cys Pro Ala  
 450 455 460

Gly Phe Gln Gly Glu Asp Cys Gly Gln Val Pro Ala Leu Tyr Thr Arg  
 465 470 475 480

Asp Ser Glu Gln Ala Ser Pro Glu Lys His Leu His His Ser Arg Ser  
 485 490 495

Pro Gln Phe Leu Arg Gly Gly Arg Leu Leu Pro Cys Pro Ser Ser Ala  
 500 505 510

Pro Pro Leu Pro Leu Pro Leu Phe Ser Leu Arg Ala Cys Gly Ala Pro  
 515 520 525

Arg Ile Ser His Arg Arg  
 530

<210> 15

<211> 372

<212> PRT

<213> Homo sapiens

<400> 15

Met Thr Gly Arg Ile Val Gly Gly Ala Leu Ala Ser Asp Ser Lys Trp  
 1 5 10 15

Pro Trp Gln Val Ser Leu His Phe Gly Thr Thr His Ile Cys Gly Gly  
 20 25 30

Thr Leu Ile Asp Ala Gln Trp Val Leu Thr Ala Ala His Cys Phe Phe  
 35 40 45

Val Thr Arg Glu Lys Val Leu Glu Gly Trp Lys Val Tyr Ala Gly Thr  
 50 55 60

Ser Asn Leu His Gln Leu Pro Glu Ala Ala Ser Ile Ala Glu Ile Ile  
 65 70 75 80  
 Ile Asn Ser Asn Tyr Thr Asp Glu Glu Asp Asp Tyr Asp Ile Ala Leu  
 85 90 95  
 Met Arg Leu Ser Lys Pro Leu Thr Leu Ser Ala His Ile His Pro Ala  
 100 105 110  
 Cys Leu Pro Met His Gly Gln Thr Phe Ser Leu Asn Glu Thr Cys Trp  
 115 120 125  
 Ile Thr Gly Phe Gly Lys Thr Arg Glu Thr Asp Asp Lys Thr Ser Pro  
 130 135 140  
 Phe Leu Arg Glu Val Gln Val Asn Leu Ile Asp Phe Lys Lys Cys Asn  
 145 150 155 160  
 Asp Tyr Leu Val Tyr Asp Ser Tyr Leu Thr Pro Arg Met Met Cys Ala  
 165 170 175  
 Gly Asp Leu Arg Gly Gly Arg Asp Ser Cys Gln Gly Asp Ser Gly Gly  
 180 185 190  
 Pro Leu Val Cys Glu Gln Asn Asn Arg Trp Tyr Leu Ala Gly Val Thr  
 195 200 205  
 Ser Trp Gly Thr Gly Cys Gly Gln Arg Asn Lys Pro Gly Val Tyr Thr  
 210 215 220  
 Lys Val Thr Glu Val Leu Pro Trp Ile Tyr Ser Lys Met Glu Asn Arg  
 225 230 235 240  
 Ala Gln Arg Val Glu Lys Ala Trp Thr Tyr Arg Pro Gly Arg Gln Leu  
 245 250 255  
 Leu Gly Arg Cys Ser Pro Arg Ser Ile Phe Leu Cys Lys Val Ala Met  
 260 265 270  
 Asp Phe Glu Asn Val Ser Val Ser Ala Glu Asp Phe Val Ile Val Phe  
 275 280 285  
 Val Ile Lys His Leu Cys Met Gly Ile Arg Ser Ser Trp Pro Phe Pro  
 290 295 300  
 Ala Leu Phe Val Leu Val Phe Leu Ile Phe Phe Leu Leu Leu Leu Leu  
 305 310 315 320  
 Ser Phe Leu Lys Asn Thr Ser Asp Ser Ile Leu Thr Leu Thr Thr Phe  
 325 330 335  
 Thr Ala Val Thr Arg Met Leu Pro Glu Asn Tyr His Ser Phe Pro Phe  
 340 345 350  
 Pro Leu Lys Ile Phe His Gln Asn Leu Thr Thr Ile Ile Lys Glu Tyr  
 355 360 365  
 Lys Val Ile Lys

370

<210> 16  
 <211> 327  
 <212> PRT  
 <213> Homo sapiens

<400> 16

Met Cys Ser Asp Asp Trp Lys Gly His Tyr Ala Asn Val Ala Cys Ala  
 1 5 10 15

Gln Leu Gly Phe Pro Ser Tyr Val Ser Ser Asp Asn Leu Arg Val Ser  
 20 25 30

Ser Leu Glu Gly Gln Phe Arg Glu Glu Phe Val Ser Ile Asp His Leu  
 35 40 45

Leu Pro Asp Asp Lys Val Thr Ala Leu His His Ser Val Tyr Val Arg  
 50 55 60

Glu Gly Cys Ala Ser Gly His Val Val Thr Leu Gln Cys Thr Ala Cys  
 65 70 75 80

Gly His Arg Arg Gly Tyr Ser Ser Arg Ile Val Gly Gly Asn Met Ser  
 85 90 95

Leu Leu Ser Gln Trp Pro Trp Gln Ala Ser Leu Gln Phe Gln Gly Tyr  
 100 105 110

His Leu Cys Gly Gly Ser Val Ile Thr Pro Leu Trp Ile Ile Thr Ala  
 115 120 125

Ala His Cys Val Tyr Asp Leu Tyr Leu Pro Lys Ser Trp Thr Ile Gln  
 130 135 140

Val Gly Leu Val Ser Leu Leu Asp Asn Pro Ala Pro Ser His Leu Val  
 145 150 155 160

Glu Lys Ile Val Tyr His Ser Lys Tyr Lys Pro Lys Arg Leu Gly Asn  
 165 170 175

Asp Ile Ala Leu Met Lys Leu Ala Gly Pro Leu Thr Phe Asn Glu Met  
 180 185 190

Ile Gln Pro Val Cys Leu Pro Asn Ser Glu Glu Asn Phe Pro Asp Gly  
 195 200 205

Lys Val Cys Trp Thr Ser Gly Trp Gly Ala Thr Glu Asp Gly Ala Gly  
 210 215 220

Asp Ala Ser Pro Val Leu Asn His Ala Ala Val Pro Leu Ile Ser Asn  
 225 230 235 240

Lys Ile Cys Asn His Arg Asp Val Tyr Gly Gly Ile Ile Ser Pro Ser  
 245 250 255

Met Leu Cys Ala Gly Tyr Leu Thr Gly Gly Val Asp Ser Cys Gln Gly

260

265

270

Asp Ser Gly Gly Pro Leu Val Cys Gln Glu Arg Arg Leu Trp Lys Leu  
 275 280 285

Val Gly Ala Thr Ser Phe Gly Ile Gly Cys Ala Glu Val Asn Lys Pro  
 290 295 300

Gly Val Tyr Thr Arg Val Thr Ser Phe Leu Asp Trp Ile His Glu Gln  
 305 310 315 320

Met Glu Arg Asp Leu Lys Thr  
 325

<210> 17

<211> 187

<212> PRT

<213> Homo sapiens

<400> 17

Met Leu Gln Asp Thr Val Val Pro Cys Ser Ala Leu Ser Ser Ala Thr  
 1 5 10 15

Ala Cys Val Tyr Ser Gly Ala Leu Thr Pro Arg Met Leu Cys Ala Gly  
 20 25 30

Tyr Leu Asp Gly Arg Ala Asp Ala Cys Gln Gly Asp Ser Gly Gly Pro  
 35 40 45

Leu Val Cys Pro Asp Gly Asp Thr Trp Arg Leu Val Gly Val Val Ser  
 50 55 60

Trp Gly Arg Gly Cys Ala Glu Pro Asn His Pro Gly Val Tyr Ala Lys  
 65 70 75 80

Val Ala Glu Phe Leu Asp Trp Ile His Asp Thr Ala Gln Asp Ser Leu  
 85 90 95

Ser Glu Ser Cys Cys Phe Leu Gln Ser His Cys Thr Pro Leu Leu Met  
 100 105 110

Leu Pro Gly Ala Ser Ser Ser Ser Thr Asn Gly Gly Glu Ala Val Ala  
 115 120 125

Ser Asp Thr Glu Arg Met Asp Leu Leu Leu Leu Cys Val Arg Asn Ser  
 130 135 140

His Tyr Pro Leu Ala Ser His Pro Ala Asn Arg Ser Leu Leu Leu Gly  
 145 150 155 160

Pro Asp Phe Arg Val Leu Phe Leu Thr Arg Asp Ser Met Thr Glu Glu  
 165 170 175

Arg Leu Gly Leu Gly Trp Ala Cys Cys Gly Cys  
 180 185

<210> 18  
 <211> 219  
 <212> PRT  
 <213> Homo sapiens

<400> 18

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Ala | Lys | Val | Phe | Phe | Pro | Pro | Asp | Arg | Val | Leu | Cys | Ala | Tyr | Glu | Glu |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |
| Gly | Leu | Gln | Ala | Ala | Gln | Arg | Ala | Cys | Gly | Gln | Arg | Gly | Pro | Gly | Pro |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |
| Pro | Lys | Pro | Gln | Glu | Gly | Asn | Thr | Val | Pro | Gly | Glu | Trp | Pro | Trp | Gln |  |
|     | 35  |     |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |
| Ala | Ser | Val | Arg | Arg | Gln | Gly | Ala | His | Ile | Cys | Ser | Gly | Ser | Leu | Val |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |
| Ala | Asp | Thr | Trp | Val | Leu | Thr | Ala | Ala | His | Cys | Phe | Glu | Lys | Ala | Ala |  |
|     | 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |
| Ala | Thr | Glu | Leu | Asn | Ser | Trp | Ser | Val | Val | Leu | Gly | Ser | Leu | Gln | Arg |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |
| Glu | Gly | Leu | Ser | Pro | Gly | Ala | Glu | Glu | Val | Gly | Val | Ala | Ala | Leu | Gln |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |  |
| Leu | Pro | Arg | Ala | Tyr | Asn | His | Tyr | Ser | Gln | Gly | Ser | Asp | Leu | Ala | Leu |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |
| Leu | Gln | Leu | Ala | His | Pro | Thr | Thr | His | Thr | Pro | Leu | Cys | Leu | Pro | Gln |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |
| Pro | Ala | His | Arg | Phe | Pro | Phe | Gly | Ala | Ser | Cys | Trp | Ala | Thr | Gly | Trp |  |
|     | 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |
| Asp | Gln | Asp | Thr | Ser | Asp | Ala | Pro | Gly | Thr | Leu | Arg | Asn | Leu | Arg | Leu |  |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |
| Arg | Leu | Ile | Ser | Arg | Pro | Thr | Cys | Asn | Cys | Ile | Tyr | Asn | Gln | Leu | His |  |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |
| Gln | Arg | His | Leu | Ser | Asn | Pro | Ala | Arg | Pro | Gly | Met | Leu | Cys | Gly | Gly |  |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |
| Pro | Gln | Pro | Gly | Val | Gln | Gly | Pro | Cys | Gln | Val |     |     |     |     |     |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     |     |     |     |     |     |  |

<210> 19  
 <211> 238  
 <212> PRT  
 <213> Homo sapiens

<400> 19

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Val | Gly | Phe | Leu | Gly | Ser | Pro | Pro | Gly | Thr | Pro | Ser | Ser | Phe | Asp | Leu |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |

Gly Cys Gly Arg Pro Gln Val Ser Asp Ala Gly Gly Arg Ile Val Gly  
20 25 30

Gly His Ala Ala Pro Ala Gly Ala Trp Pro Trp Gln Ala Ser Leu Arg  
35 40 45

Leu Arg Arg Val His Val Cys Gly Gly Ser Leu Leu Ser Pro Gln Trp  
50 55 60

Val Leu Thr Ala Ala His Cys Phe Ser Gly Ser Leu Asn Ser Ser Asp  
65 70 75 80

Tyr Gln Val His Leu Gly Glu Leu Glu Ile Thr Leu Ser Pro His Phe  
85 90 95

Ser Thr Val Arg Gln Ile Ile Leu His Ser Ser Pro Ser Gly Gln Pro  
100 105 110

Gly Thr Ser Gly Asp Ile Ala Leu Val Glu Leu Ser Val Pro Val Thr  
115 120 125

Leu Ser Ser Arg Ile Leu Pro Val Cys Leu Pro Glu Ala Ser Asp Asp  
130 135 140

Phe Cys Pro Gly Ile Arg Cys Trp Val Thr Gly Trp Gly Tyr Thr Arg  
145 150 155 160

Glu Gly Glu Pro Leu Pro Pro Pro Tyr Ser Leu Arg Glu Val Lys Val  
165 170 175

Ser Val Val Asp Thr Glu Thr Cys Arg Arg Asp Tyr Pro Gly Pro Gly  
180 185 190

Gly Ser Ile Leu Gln Pro Asp Met Leu Cys Ala Arg Gly Pro Gly Asp  
195 200 205

Ala Cys Gln Asp Asp Ser Gly Gly Pro Leu Val Cys Gln Val Asn Gly  
210 215 220

Ala Trp Val Gln Ala Gly Thr Val Ser Trp Gly Glu Gly Cys  
225 230 235

<210> 20

<211> 69

<212> PRT

<213> Homo sapiens

<400> 20

Leu Ser Phe Phe Phe Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Glu  
1 5 10 15

Leu Asn Gly Thr Trp Val Gln Val Gly Ile Val Ser Trp Gly Ile Gly  
20 25 30

Cys Gly Arg Lys Gly Tyr Pro Gly Val Tyr Thr Glu Val Ser Phe Tyr  
35 40 45



Lys Lys Trp Ile Ile Asp His Leu Arg Gln Ala Ser Cys Leu Asn Ser  
 50 55 60

Lys Thr Ser Ser Ser  
 65

<210> 21  
 <211> 48  
 <212> PRT  
 <213> Homo sapiens

<400> 21  
 Met Val Ala Leu Cys Arg Glu His Pro His Ser His Phe Pro Leu Pro  
 1 5 10 15

Ser Leu Pro Ser Asp Ser Pro His Thr Cys Leu Trp Gly Gly Arg Met  
 20 25 30

Pro Leu Pro Pro Ser His Ser Pro Ala Leu Pro Ala Gln Pro Gly Ser  
 35 40 45

<210> 22  
 <211> 6  
 <212> PRT  
 <213> Homo sapiens

<400> 22  
 Leu Ser Ala Ala His Cys  
 1 5

<210> 23  
 <211> 16  
 <212> PRT  
 <213> Homo sapiens

<400> 23  
 Cys Glu Cys His Val Gly Tyr Gln Leu Ala Ala Asp Gly Lys Ala Cys  
 1 5 10 15

<210> 24  
 <211> 16  
 <212> PRT  
 <213> Homo sapiens

<400> 24  
 Cys Thr Cys Pro Arg Gly Tyr Glu Leu Asp Thr Asp Gln Arg Thr Cys  
 1 5 10 15

<210> 25  
 <211> 24  
 <212> PRT  
 <213> Homo sapiens

<400> 25  
 Asp Val Asp Asp Cys Ala Asp Ser Pro Cys Cys Gln Gln Val Cys Thr  
 1 5 10 15  
 Asn Asn Pro Gly Gly Tyr Glu Cys  
 20

<210> 26  
 <211> 40  
 <212> PRT  
 <213> Homo sapiens

<400> 26  
 Asp Val Asp Glu Cys Ala Ser Ser Arg Gly Gly Cys Glu His His Cys  
 1 5 10 15  
 Thr Asn Leu Ala Gly Ser Phe Gln Cys Ser Cys Glu Ala Gly Tyr Arg  
 20 25 30  
 Leu His Glu Asp Arg Arg Gly Cys  
 35 40

<210> 27  
 <211> 12  
 <212> PRT  
 <213> Homo sapiens

<400> 27  
 Cys Arg Cys Pro Pro Gly Val Ser Gly Thr Asn Cys  
 1 5 10

<210> 28  
 <211> 12  
 <212> PRT  
 <213> Homo sapiens

<400> 28  
 Cys Leu Cys Asp Pro Gly Leu Tyr Gly Arg Phe Cys  
 1 5 10

<210> 29  
 <211> 15  
 <212> PRT  
 <213> Homo sapiens

&lt;400&gt; 29

Cys Ser Cys Lys Ala Gly Phe Arg Gly Arg Cys Gln Ala Glu Cys  
 1 5 10 15

&lt;210&gt; 30

&lt;211&gt; 296

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 30

Met Thr Gly Arg Ile Val Gly Gly Ala Leu Ala Ser Asp Ser Lys Trp  
 1 5 10 15

Pro Trp Gln Val Ser Leu His Phe Gly Thr Thr His Ile Cys Gly Gly  
 20 25 30

Thr Leu Ile Asp Ala Gln Trp Val Leu Thr Ala Ala His Cys Phe Phe  
 35 40 45

Val Thr Arg Glu Lys Val Leu Glu Gly Trp Lys Val Tyr Ala Gly Thr  
 50 55 60

Ser Asn Leu His Gln Leu Pro Glu Ala Ala Ser Ile Ala Glu Ile Ile  
 65 70 75 80

Ile Asn Ser Asn Tyr Thr Asp Glu Glu Asp Asp Tyr Asp Ile Ala Leu  
 85 90 95

Met Arg Leu Ser Lys Pro Leu Thr Leu Ser Ala His Ile His Pro Ala  
 100 105 110

Cys Leu Pro Met His Gly Gln Thr Phe Ser Leu Asn Glu Thr Cys Trp  
 115 120 125

Ile Thr Gly Phe Gly Lys Thr Arg Glu Thr Asp Asp Lys Thr Ser Pro  
 130 135 140

Phe Leu Arg Glu Val Gln Val Asn Leu Ile Asp Phe Lys Lys Cys Asn  
 145 150 155 160

Asp Tyr Leu Val Tyr Asp Ser Tyr Leu Thr Pro Arg Met Met Cys Ala  
 165 170 175

Gly Asp Leu Arg Gly Gly Arg Asp Ser Cys Gln Gly Asp Ser Gly Gly  
 180 185 190

Pro Leu Val Cys Glu Gln Asn Asn Arg Trp Tyr Leu Ala Gly Val Thr  
 195 200 205

Ser Trp Gly Thr Gly Cys Gly Gln Arg Asn Lys Pro Gly Val Tyr Thr  
 210 215 220

Lys Val Thr Glu Val Leu Pro Trp Ile Tyr Ser Lys Met Glu Asn Arg  
 225 230 235 240

Ala Gln Arg Val Glu Lys Ala Trp Thr Tyr Arg Pro Gly Arg Gln Leu  
 245 250 255

Leu Gly Arg Cys Ser Pro Arg Ser Ile Phe Leu Cys Lys Val Ala Met  
                   260                                  265                                  270

Asp Phe Glu Asn Val Ser Val Ser Ala Glu Asp Phe Val Ile Val Phe  
                   275                                  280                                  285

Val Ile Lys His Leu Cys Met Gly  
                   290                                  295

<210> 31

<211> 31

<212> PRT

<213> Homo sapiens

<400> 31

Ile Arg Ser Ser Trp Pro Phe Pro Ala Leu Phe Val Leu Val Phe Leu  
           1                                  5                                  10                                  15

Ile Phe Phe Leu Leu Leu Leu Ser Phe Leu Lys Asn Thr Ser  
                   20                                  25                                  30

<210> 32

<211> 6

<212> PRT

<213> Homo sapiens

<400> 32

Ile Thr Ala Ala His Cys  
           1                                  5

<210> 33

<211> 12

<212> PRT

<213> Homo sapiens

<400> 33

Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val  
           1                                  5                                  10

<210> 34

<211> 12

<212> PRT

<213> Homo sapiens

<400> 34

Asp Ala Cys Gln Gly Asp Ser Gly Gly Pro Leu Val  
           1                                  5                                  10

<210> 35

<211> 6

<212> PRT

<213> Homo sapiens

&lt;400&gt; 35

Leu Thr Ala Ala His Cys

1

5

&lt;210&gt; 36

&lt;211&gt; 6

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 36

Leu Thr Ala Ala His Cys

1

5

&lt;210&gt; 37

&lt;211&gt; 69

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 37

Leu Ser Phe Phe Phe Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Glu

1

5

10

15

Leu Asn Gly Thr Trp Val Gln Val Gly Ile Val Ser Trp Gly Ile Gly

20

25

30

Cys Gly Arg Lys Gly Tyr Pro Gly Val Tyr Thr Glu Val Ser Phe Tyr

35

40

45

Lys Lys Trp Ile Ile Asp His Leu Arg Gln Ala Ser Cys Leu Asn Ser

50

55

60

Lys Thr Ser Ser Ser

65

&lt;210&gt; 38

&lt;211&gt; 80

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 38

Asp Arg Val Ser Thr Trp Trp Pro Val Pro Gly Gly Glu Trp Leu Cys

1

5

10

15

Gly Val Cys Val Pro Gly Arg Ile His Arg Ser Ser Leu Arg Asp Gly

20

25

30

Cys Gly Arg Leu Gln Pro Asp Pro Cys Leu Asn Gly Gly Ser Cys Val

35

40

45

Asp Leu Gly Asn Tyr Thr Cys Leu Cys Ala Glu Pro Phe Lys Gly Leu

50

55

60

Arg Cys Glu Thr Gly Asn Trp Pro Ser Ala Cys Arg Pro Pro Trp Leu

65

70

75

80